

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 75-81, 83-92, 94-104, 106-115 and 117-119 are pending in the application, with claims 75, 86, 97 and 109 being the independent claims. Claims 75-78, 83-89, 94-98, 100-102, 106-112 and 117-119 are sought to be amended. Specifically, claims 78, 89, 102 and 112 are sought to be amended to provide proper antecedent basis, and not to distinguish over any publications applied by the Examiner. Claims 82, 93, 105 and 116 are sought to be cancelled without prejudice to or disclaimer of the subject matter therein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 102***

In paragraph three<sup>1</sup> of the Office Action, the Examiner rejected claims 75, 79, 81-83, 86, 90, 91-94, 97, 98, 105, 106, 109, 113 and 115-117 under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,160,280 to Bonn et al. (hereinafter Bonn). Applicants respectfully traverse this rejection.

Independent claim 75 has been amended to recite that the first port of a capacitor is electrically coupled to one of the source or drain of a transistor and the first port of a resonant structure is electrically coupled to the other of the source or drain of the

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<sup>1</sup> The Examiner appears to have inadvertently labeled two different paragraphs as paragraph three. Here, Applicants are referring to the paragraph three that is on page two of the present Office Action.

transistor. In addition, claim 75 has been amended to recite that a signal frequency at the first port of the capacitor is lower than a frequency of the RF source signal. Bonn fails to teach or suggest at least these features.

Bonn does not teach or suggest an apparatus that is coupled as is recited in claim 75 as amended. For example, what the Examiner refers to as a resonant structure, capacitor 38 and inductor 42 in Fig. 1 of Bonn (see paragraph 3 of the Office Action), is coupled to a *gate* of transistor 50, not the source or drain as is recited in claim 75 (see Fig. 1). In addition, the capacitor 38 and inductor 42 are not coupled to an RF source signal (see Fig. 1).

Claims 79, 81 and 83 depend from independent claim 75 and are thus patentable over Bonn for at least the reasons described above, and further in view of their own features. Claim 82 is sought to be cancelled. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 75, 79 and 81-83.

Independent claim 86 has been amended to recite that the first port of a first capacitor and the second port of the second capacitor are electrically coupled to one of the source or drain of a transistor. Claim 86 has also been amended to recite that the first port of the second capacitor and the first port of the resonant structure are electrically coupled to the other of the source or drain of the transistor. Further, claim 86 has been amended to recite that a signal frequency at the first port of the first capacitor is lower than a frequency of the RF source signal. Bonn fails to teach or suggest these features.

Claims 90, 91-92 and 94 depend from independent claim 86 and are thus patentable over Bonn for at least the reasons described above, and further in view of their own features. Claim 93 is sought to be cancelled. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 86, 90 and 91-94.

Claim 97 has been amended to recite an apparatus for down-converting an electromagnetic signal in which the first port of a capacitor is electrically coupled to one of the source or drain of a first transistor and the second port of the capacitor is coupled to one of the source or drain of the second transistor.

Bonn fails to teach or suggest each of the features of claim 97. Specifically, Bonn fails to teach or suggest that a first port of a capacitor is coupled to one of the drain or source of a first transistor and that the second port of the capacitor is electrically coupled to the second port of a second transistor, as is recited in claim 97. Further, Bonn fails to teach or suggest that an RF source signal is electrically coupled to the other of the drain or source of the first transistor, as is recited in claim 97.

Claims 98 and 106 depend from independent claim 97 and are thus patentable over Bonn for at least the reasons described above, and further in view of their own features. Claim 105 is sought to be cancelled. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 97, 98, 105 and 106.

Independent claim 109 has been amended to recite that the first port of a first capacitor and the first port of a second capacitor are electrically coupled to one of the drain or source of a transistor, and a load and the second port of the second capacitor are electrically coupled to the other of the drain or source. In addition, claim 109 has been amended to recite that a signal frequency at the first port of the first capacitor is lower than a frequency of an RF source.

Bonn fails to teach or suggest these features. Specifically, Bonn fails to teach or suggest a first port of a first capacitor and the first port of a second capacitor that are coupled to a drain or source of a transistor and that the second port of the second capacitor is electrically coupled to the other of the drain or source. Not one of the

transistors disclosed in Fig. 1 of Bonn (transistors 20, 30, 50, 70 and 90) is coupled to two capacitors, wherein one end of the one of the capacitors is coupled to the source or drain and the other end of the same capacitor is coupled to the other of the source or drain.

Claims 113 and 115-117 depend from independent claim 109 and are thus patentable over Bonn for at least the reasons described above, and further in view of their own features. Claim 116 is sought to be cancelled. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 109, 113 and 115-117.

***Rejections under 35 U.S.C. § 103***

In paragraph four of the Office Action, the Examiner rejected claims 76, 80, 84, 85, 87, 91, 95, 96, 99, 100, 103, 104, 107, 108, 118 and 119 under 35 U.S.C. § 103(a) as being unpatentable over Bonn. Applicants respectfully traverse this rejection.<sup>2</sup>

As discussed above, Bonn fails to teach or suggest all features of independent claim 75 as amended. Claims 76, 80, 84 and 85 depend from claim 75 and are thus patentable for at least the reasons provided above with respect to claim 75. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 76, 80, 84 and 85.

As discussed above, Bonn fails to teach or suggest all features of independent claim 86 as amended. Claims 87, 91, 95 and 96 depend from claim 86 and are thus patentable for at least the reasons provided above with respect to claim 86. Applicants

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<sup>2</sup> Applicants point out that in paragraph four of the present Office Action, the Examiner cited the "Long" reference. However, the context of the reference implies that the Examiner intended to cite the Bonn reference, and that the use of "Long" was merely carried over from the previous Office Action for this application (dated October 8, 2003). Therefore, Applicants have assumed that the Examiner meant to cite "Bonn" and have tailored the response accordingly.

therefore request that the Examiner reconsider and withdraw the rejection of claims 76, 80, 84 and 85.

As discussed above, Bonn fails to teach or suggest all features of independent claim 97 as amended. Claims 99, 100, 103, 104, 107 and 108 depend from claim 97 and are thus patentable for at least the reasons provided above with respect to claim 97. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 99, 100, 103, 104, 107 and 108.

As discussed above, Bonn fails to teach or suggest all features of independent claim 109 as amended. Claims 118 and 119 depend from claim 109 and are thus patentable for at least the reasons provided above with respect to claim 109. Applicants therefore request that the Examiner reconsider and withdraw the rejection of claims 118 and 119.

***Other Matters***

Applicants acknowledge that in paragraph five of the Office Action, the Examiner objected to claims 77, 78, 88, 89, 101, 102, 111 and 112 as being dependent upon a rejected base claim, but stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

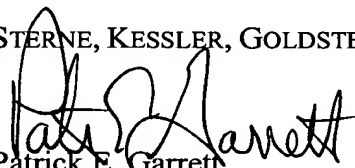
***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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